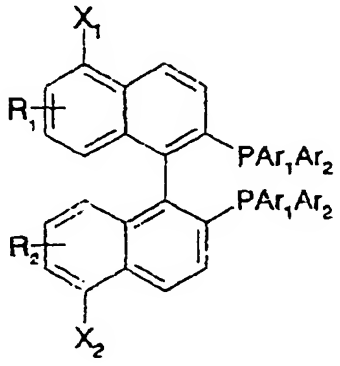
AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. through 64. (Canceled).

65. (Currently Amended): A diphosphine in racemic form or in chiral form, corresponding to formula (I):



(I)

in said formula:

- R_1 and R_2, which are identical or different, represent a hydrogen atom or a substituent selected from the group consisting of alkyl groups having 1 to 6 carbon atoms and alkoxy groups having 1 to 6 carbon atoms,
- Ar_1 and Ar_2 independently represent an alkyl, alkenyl, cycloalkyl, aryl or arylalkyl group,
- X_1 and X_2, which are identical or different, represent:

  an alkyl, alkenyl, alkynyl, cycloalkyl, aryl or arylalkyl group,

an alkyl group substituted with one or more halogen atoms, or with one or more nitro groups,

a halogen atom selected from the group consisting of bromine, chlorine and iodine,

an -OH group,

a ~~group~~ -O-COR_a group,

a ~~group~~ -O-R_a group,

a ~~group~~ -S-R_a group,

a group selected from the group consisting of:

a ~~group~~ -$COOR_a$ group,

a -COOH group;

a -CH_2-NH_2 group;

a -CN group;

a -CH_2OH group, and

~~a group -CO-NH-R_b;~~

a group selected from the group consisting of:

a ~~group~~ -CH_2-NH-CO-R_b group,

a ~~group~~ -CH_2-NH-CO-NH-R_b group,

a ~~group~~ -CH_2-N=CH-R_a group,

a -CH_2-N=C=O group, and

a ~~-CH_2-NH_4^+~~ -CH_2-NH_3^+ group,

a group selected from the group consisting of:

a ~~group~~ -N=CH-R_a group,

an -NH-NH_2 group,

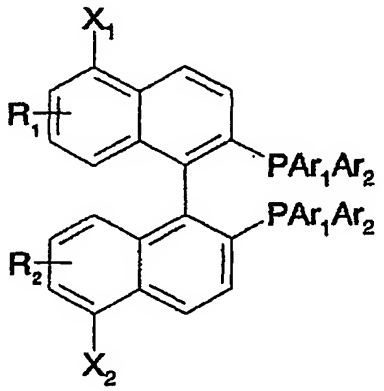
an -$N=N^+=N^-$ group, and

an -N=C=O group,

a magnesium or lithium atom,

in the various formulae, R_a represents an alkyl, cycloalkyl, arylalkyl or phenyl group and R_b has the meaning given for R_a and also represents a naphthyl group.

66. (Currently Amended): The diphosphine as claimed in claim 65, bearing two functional groups capable of reacting with one or more polymerizable monomers corresponding to the general formula (I'):



(I')

in said formula:

- R_1 and R_2, which are identical or different, represent a hydrogen atom or a substituent selected from the group consisting of alkyl groups having 1 to 6 carbon atoms and alkoxy groups having 1 to 6 carbon atoms,
- Ar_1 and Ar_2 independently represent an alkyl, alkenyl, cycloalkyl, aryl or arylalkyl group,
- X_1 and X_2, which are identical, represent:

an -OH group,

a -CH_2-NH_2 group,

a -CH_2OH group,

a -COOH group,

a ~~group~~ $-COOR_a$ group in which R_a represents an alkyl, cycloalkyl, arylalkyl or phenyl group,

an -N=C=O group, or

a $-CH_2-N=C=O$ group.

67. (Previously Presented): The diphosphine as claimed in claim 65, wherein in formula (I), Ar_1 and Ar_2 represent a (C_1-C_6)alkyl group, a phenyl group optionally substituted with one or more (C_1-C_6)alkyl or (C_1-C_6)alkoxy; or a (C_4-C_8)cycloalkyl group optionally substituted with one or more (C_1-C_6)alkyl groups.

68. (Previously Presented): The diphosphine as claimed in claim 65, wherein in formula (I), R_1 and R_2, which are identical or different, represent a hydrogen atom or an alkyl or alkoxy group containing from 1 to 4 carbon atoms, Ar_1 and Ar_2 represent a phenyl group, and X_1 and X_2, which are identical, represent:

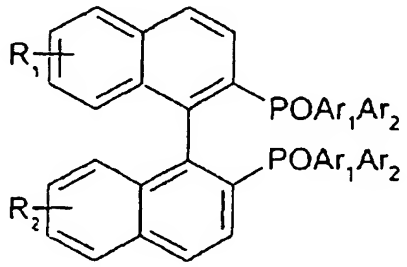
a halogen atom, or

an alkyl group substituted with one or more fluorine atoms.

69-70. (Canceled).

71. (Withdrawn): The diphosphine as claimed in claim 65, wherein X_1 and X_2, which are identical, represent a perfluoroalkyl group C_pF_{2p+1} in which p is between 1 and 15.

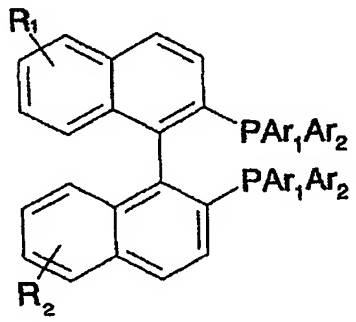
72. (Withdrawn-Currently Amended): A process for preparing a diphosphine as defined in claim 65, comprising at least one step of halogenation in positions 5,5' of a compound of formula (III):



(III)

in said formula R_1, R_2, Ar_1 and Ar_2 have the same meanings as in formula (I), said halogenation being optionally performed in an inert aprotic solvent.

73. (Withdrawn): The process as claimed in claim 72, wherein the diphosphine in dioxide form of formula (III) is obtained by oxidation of the chiral or achiral diphosphine of formula (IV):



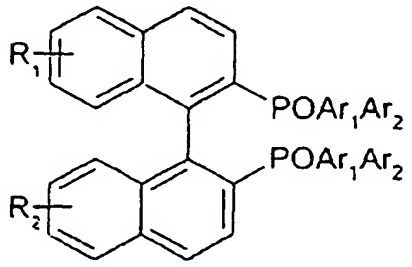
(IV)

in said formula:

- R_1, R_2, Ar_1 and Ar_2 having the same meanings as in formula (I).

74. (Previously Presented): A process for preparing the diphosphine corresponding to formula (I) as defined in claim 65, and wherein X_1 and X_2 represent a halogen atom, said process comprising the following steps:

i) performing an halogenation in the 5,5' position of a compound of formula (III):

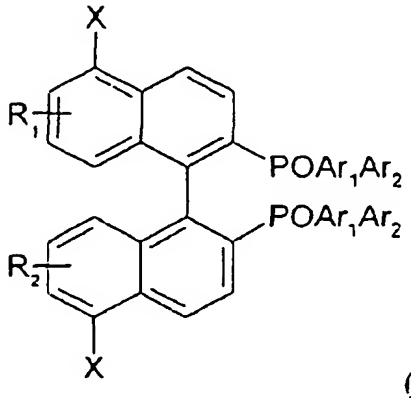


(III)

wherein:

- R_1, R_2, Ar_1 and Ar_2 have the same meanings as in formula (I),

using a halogen and in the presence of iron, so as to obtain the corresponding dihalo compound of formula:

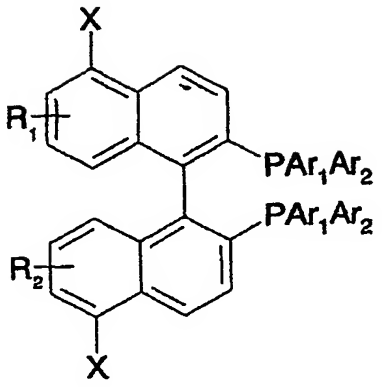


(IIa_1)

in said formula:

- X represents a chlorine, bromine or iodine atom,
- R_1, R_2, Ar_1 and Ar_2 have the meanings given above; and

ii) performing the reduction of the diphosphine in dioxide and dihalo form in position 5,5' of formula (IIa_1), into the diphosphine of formula (Ia_1):



(Ia1)

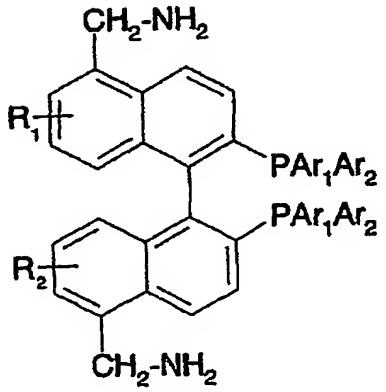
in said formula:

- X represents a chlorine, bromine or iodine atom, and
- R_1, R_2, Ar_1 and Ar_2 having the meanings given above.

75-79. (Canceled)

80. (Withdrawn): A polymer in racemic or optically active form, made by reaction of a chiral or achiral diphosphine of formula (I') as defined in claim 66, with one or more polymerizable monomers.

81. (Withdrawn): The polymer as claimed in claim 80, wherein the diphosphine corresponds to formula (Ia_3) as follows:



(Ia3)

in said formula: R_1, R_2, Ar_1 and Ar_2 have the same meanings as in formula (I').

82. (Withdrawn): The polymer as claimed in claim 80, wherein the monomer reacted with the diphosphine corresponds to formula (X) below:

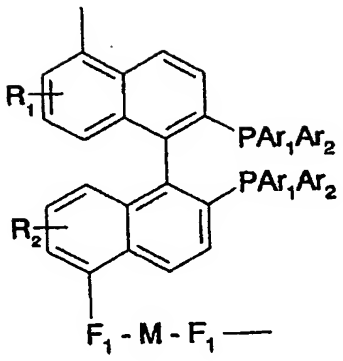
$$Y_1\text{-}M\text{-}Y_1 \quad (X)$$

in which:

- M represents a divalent hydrocarbon-based group of aliphatic, alicyclic and/or aromatic nature, and
- Y_1 represents a carboxylic, ester, hydroxyl, amino, isocyanato, aldehyde or ketone group.

83. (Withdrawn): The polymer as claimed in claim 82, wherein the monomer reacted with the diphosphine corresponds to formula (X) in which M represents a C_1-C_{12} alkylene chain; a cycloalkylene group; or an arylene group.

84. (Withdrawn-Currently Amended): A polymer in racemic or optically active form comprising the following repeating unit:



(P)

in which

- R_1 and R_2, which are identical or different, represent a hydrogen atom or a substituent selected from the group consisting of alkyl groups having 1 to 6 carbon atoms and alkoxy groups having 1 to 6 carbon atoms,
- Ar_1 and Ar_2 independently represent an alkyl, alkenyl, cycloalkyl, aryl or arylalkyl group,
- M represents a divalent hydrocarbon-based group of aliphatic, alicyclic and/or aromatic nature;
- F_1 represents a functional group resulting from the reaction:
  - of the group X_1 chosen from the following groups: aminomethyl, hydroxyl, hydroxymethyl, carboxylic, ester, isocyanato, and isocyanatomethyl, and
  - of the group Y_1 chosen from carboxylic, ester, hydroxyl, amino, isocyanato, aldehyde and ketone groups, and
- the degree of polymerization is optionally between 2 and 100.

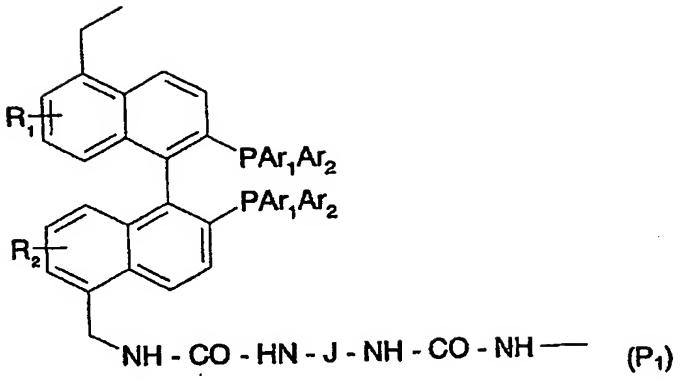
85. (Withdrawn): The polymer as claimed in claim 84, wherein in formula (P), M represents a C_1-C_{12} and optionally C_1-C_6 alkylene chain; a cycloalkylene group, cyclohexylene; an arylene group, phenylene, tolylene or naphthalene.

86. (Withdrawn): The polymer as claimed in claim 84, wherein in formula (P), F_1 represents:

- a urea group (F_1) resulting from the reaction of an aminomethyl group (X_1) with an isocyanato group (Y_1) or an isocyanato or isocyanatomethyl group (X_1) with an amino group (Y_1),
- a urethane group (F_1) resulting from the reaction of an isocyanato or isocyanatomethyl group (X_1) with a hydroxyl group (Y_1) or a hydroxyl or hydroxymethyl group (X_1) with an isocyanato group (Y_1),
- an ester group (F_1) resulting from the reaction of a carboxylic or ester group (X_1) with a hydroxyl group (Y_1) or a hydroxyl or hydroxymethyl group (X_1) which a carboxylic or ester group (Y_1),
- an amide group (F_1) resulting from the reaction of a carboxylic group (X_1) with an amino group (Y_1) or an aminomethyl group (X_1) with a carboxylic group (Y_1), or
- an imine group (F_1) resulting from the reaction of an aminomethyl group (X_1) with an aldehyde or ketone group (Y_1).

87. (Withdrawn): The polymer as claimed in claim 80, wherein the polymer is a polyurea, polyamide, polyimide, polyimine, polyester or polyurethane.

88. (Withdrawn-Currently Amended): The polymer as claimed in claim 84, wherein the polymer is a polymer of polyurea type containing the repeating unit:



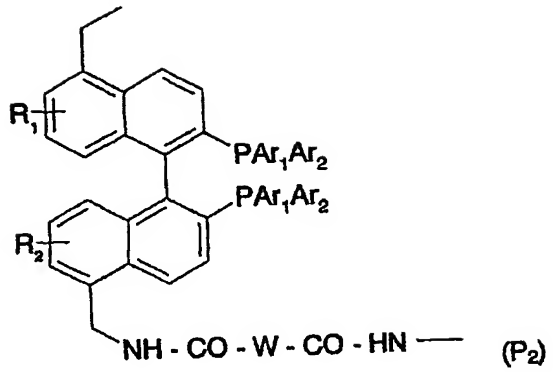
(P_1)

in which:

- R_1 and R_2, which are identical or different, represent a hydrogen atom or a substituent selected from the group consisting of alkyl groups having 1 to 6 carbon atoms and alkoxy groups having 1 to 6 carbon atoms,
- Ar_1 and Ar_2 independently represent an alkyl, alkenyl, cycloalkyl, aryl or arylalkyl group,
- J represents a divalent hydrocarbon-based group of aliphatic, alicyclic and/or aromatic nature, and
- the degree of polymerization is optionally between 2 and 100.

89. (Withdrawn): A process for preparing the polyurea as claimed in claim 88, wherein a diphosphine bearing two $-CH_2-NH_2$ groups is polymerized with one or more di- or polyisocyanates.

90. (Withdrawn-Currently Amended): The polymer as claimed in claim 80, wherein the polymer is a polyamide containing the repeating unit:



in which:

- R_1 and R_2, which are identical or different, represent a hydrogen atom or a substituent selected from the group consisting of alkyl groups having 1 to 6 carbon atoms and alkoxy groups having 1 to 6 carbon atoms,
- Ar_1 and Ar_2 independently represent an alkyl, alkenyl, cycloalkyl, aryl or arylalkyl group,
- W represents a divalent hydrocarbon-based group of aliphatic, alicyclic and/or aromatic nature, and
- the degree of polymerization is optionally between 2 and 100.

91. (Withdrawn): A transition metal complex comprising at least one ligand as defined in claim 65.

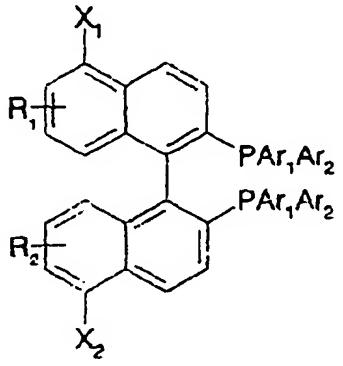
92. (Withdrawn): A transition metal complex comprising at least one ligand as defined in claim 80.

93. (Withdrawn): The complex as claimed in claim 91, wherein the transition metal is chosen from: rhodium, ruthenium, rhenium, iridium, cobalt, nickel, platinum and palladium.

94. (Previously Presented): The diphosphine as claimed in claim 66, wherein in formula (I'), Ar_1 and Ar_2 represent a $(C_1\text{-}C_6)$alkyl group, a phenyl group optionally substituted with one or more $(C_1\text{-}C_6)$alkyl or $(C_1\text{-}C_6)$alkoxy; or a $(C_4\text{-}C_8)$cycloalkyl group optionally substituted with one or more $(C_1\text{-}C_6)$alkyl groups.

95. (Canceled).

96. (New): A diphosphine in racemic form or in chiral form, corresponding to formula (I):



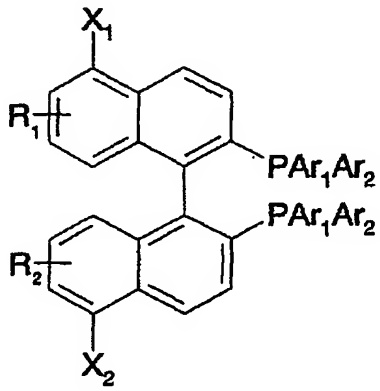
(I)

in said formula:

- R_1 and R_2 represent a hydrogen atom,
- Ar_1 and Ar_2 independently represent an aryl group,
- X_1 and X_2, which are identical or different, represent:
  - an alkyl, aryl or arylalkyl group,
  - an alkyl group substituted with one or more halogen atoms,
  - a halogen atom selected from the group consisting of bromine, chlorine and iodine,
  - a -CN group,

- a $-CH_2-NH_2$ group,
- a -COOH group,
- a $-COOR_a$ group in which R_a represents an alkyl, cycloalkyl, arylalkyl or phenyl group, or
- a $-CH_2-NH_3^+$ group.

97. (New): The diphosphine as claimed in claim 96, bearing two functional groups capable of reacting with one or more polymerizable monomers corresponding to the general formula (I'):



(I')

in said formula:

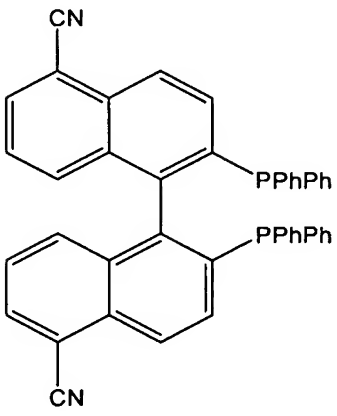
- R_1 and R_2 represent a hydrogen atom,
- Ar_1 and Ar_2 independently represent an aryl group,
- X_1 and X_2, which are identical or different, represent:
  - a -CN group,
  - a $-CH_2-NH_2$ group,
  - a -COOH group, or

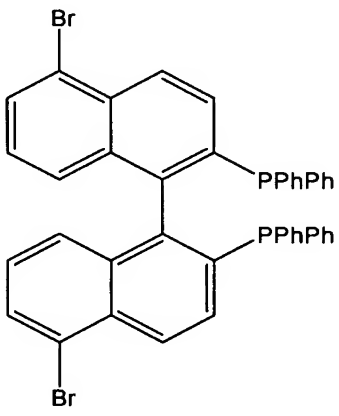
a -$COOR_a$ group in which R_a represents an alkyl, cycloalkyl, arylalkyl or phenyl group.

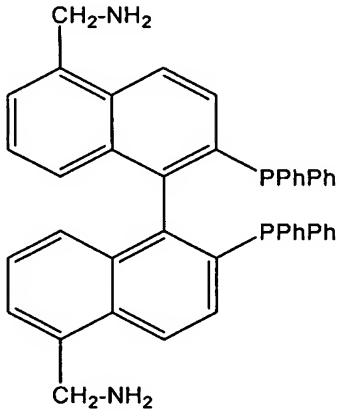
98. (New): The diphosphine as claimed in claim 96, wherein Ar_1 and Ar_2 represent a phenyl group optionally substituted with one or more $(C_1\text{-}C_6)$alkyl or $(C_1\text{-}C_6)$alkoxy.

99. (New): The diphosphine as claimed in claim 96, wherein Ar_1 and Ar_2 represent a phenyl group.

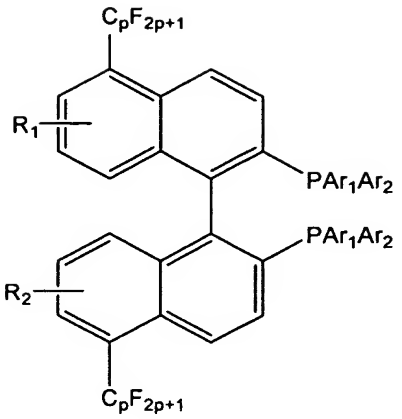
100. (New): The diphosphine as claimed in claim 96, wherein it corresponds to one of the following formulae:





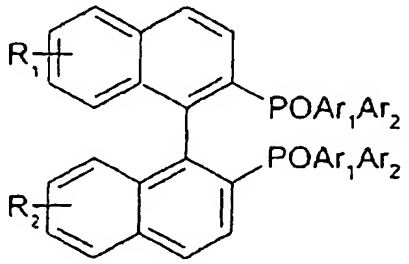


101. (New): The diphosphine as claimed in claim 96, wherein it corresponds to the following formula:



in which p is between 1 and 15, and R_1, R_2, Ar_1 and Ar_2 have the same meanings as in formula (I).

102. (New): A process for preparing a diphosphine corresponding to formula (I) as claimed in claim 96, comprising at least one step of halogenation in positions 5,5' of a compound of formula (III):

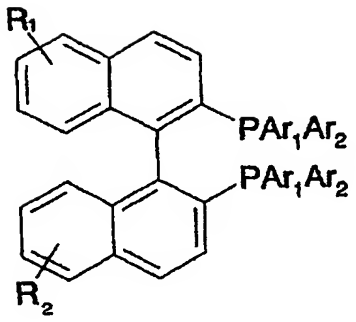


(III)

in said formula, R_1, R_2, Ar_1 and Ar_2 have the same meanings as in formula (I).

103. (New): The process as claimed in claim 102, wherein the halogenation is performed in an inert aprotic solvent.

104. (New): The process as claimed in claim 102, wherein the diphosphine in dioxide form of formula (III) is obtained by oxidation of a chiral or achiral diphosphine of formula (IV):

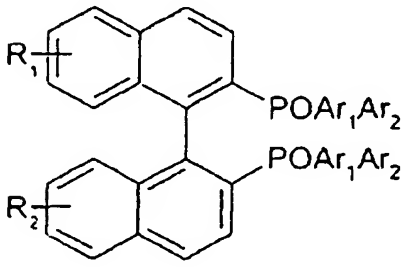


(IV)

in said formula, R_1, R_2, Ar_1 and Ar_2 having the same meanings as in formula (I).

105. (New): A process for preparing the diphosphine corresponding to formula (I) as defined in claim 96, and wherein X_1 and X_2 represent a halogen atom, said process comprising the following steps:

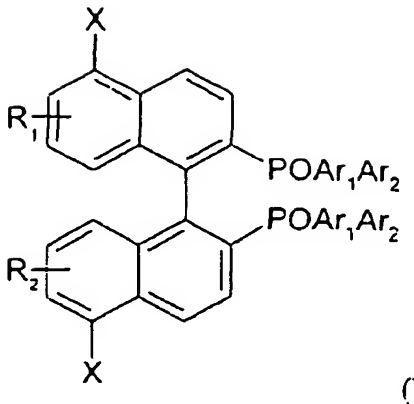
i) performing an halogenation in the 5,5' positions of a compound of formula (III):



(III)

wherein R_1, R_2, Ar_1 and Ar_2 have the same meanings as in formula (I),

using a halogen and in the presence of iron, so as to obtain the corresponding dihalo compound of formula:

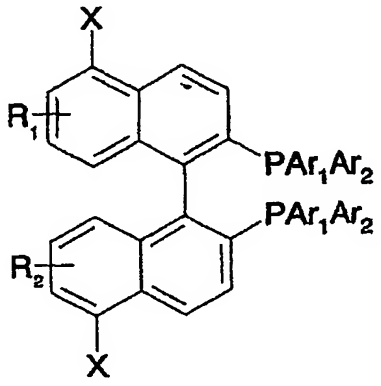


(IIa_1)

in said formula:

- X represents a chlorine, bromine or iodine atom,
- R_1, R_2, Ar_1 and Ar_2 have the same meanings given above; and

ii) performing reduction of the diphosphine in dioxide and dihalo form in positions 5,5' of formula (IIa_1), into the diphosphine of formula (Ia_1):



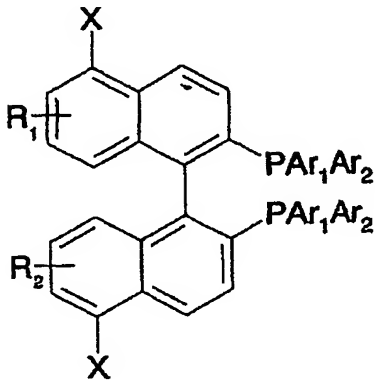
(Ia_1)

in said formula:

- X represents a chlorine, bromine or iodine atom, and
- R_1, R_2, Ar_1 and Ar_2 having the same meanings given above.

106. (New): A process for preparing the diphosphine corresponding to formula (I) as claimed in claim 96 and wherein X_1 and X_2 represent a -CN group, comprising:

- performing substitution of the two halogen atoms with cyano groups by reacting the diphosphine in dioxide and dihalo form in positions 5,5' of formula (Ia_1):



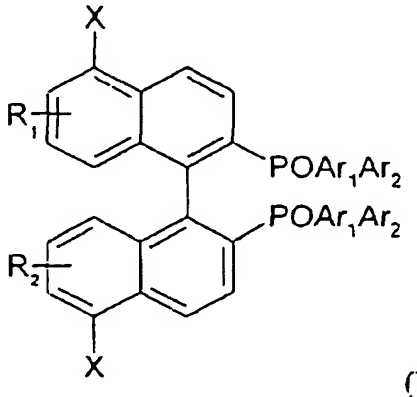
(Ia_1)

in said formula:

- X represents a chlorine, bromine or iodine atom, and
- R_1, R_2, Ar_1 and Ar_2 having the same meanings as in formula (I).

107. (New): A process for preparing the diphosphine corresponding to formula (I) as claimed in claim 96 and wherein X_1 and X_2 represent a -CN group, comprising the following steps:

i) performing cyanation by substitution of the two halogen atoms with cyano groups by reacting a diphosphine in dioxide and dihalo form in positions 5,5' of formula (IIa_1):

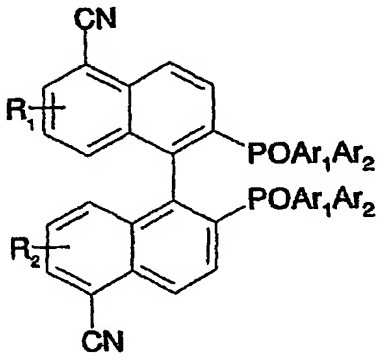


(IIa_1)

in said formula:

- X represents a chlorine, bromine or iodine atom,
- R_1, R_2, Ar_1 and Ar_2 have the same meanings as in formula (I),

using a nucleophilic reagent so as to obtain the corresponding dicyano compound (IIa_2):

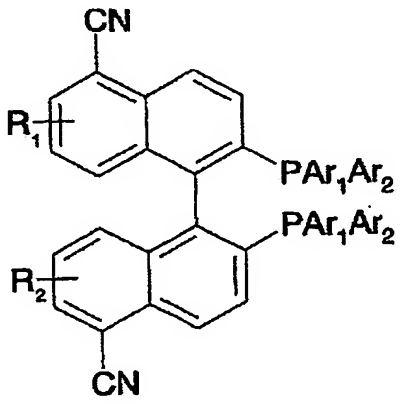


(IIa_2)

in said formula:

- R_1, R_2, Ar_1 and Ar_2 have the same meanings given above, and

ii) performing reduction of the diphosphine in dioxide and dicyano form in positions 5,5' of formula (IIa_2) into the diphosphine of formula (Ia_2):



(Ia_2)

in said formula, R_1, R_2, Ar_1 and Ar_2 have the same meanings given above.

108. (New): The process as claimed in claim 107, wherein the cyanation is performed using copper cyanide.

109. (New): The process as claimed in claim 107, wherein the reduction of the diphosphine in dioxide form is performed using a hydrogenosilane of formula:

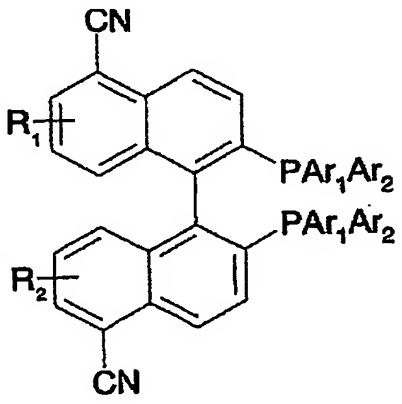
$$HSiR_\alpha R_\beta R_\delta \ (F_a)$$

in said formula:

- R_α, R_β and R_δ, which are identical or different, represent a hydrogen atom, an alkyl group containing from 1 to 6 carbon atoms, a phenyl group or a chlorine atom, and
- at most two of the groups R_α, R_β and R_δ represent a hydrogen atom.

110. (New): The process as claimed in claim 109, wherein the reduction of the diphosphine in dioxide form is performed using a mixture of $PhSiH_3$ (or PMHS) and $HSiCl_3$.

111. (New): A process for preparing the diphosphine as defined in claim 96, wherein X_1 and X_2 represent a $-CH_2-NH_2$ group, said process comprising a step of reducing the cyano groups of a compound of formula (Ia_2):

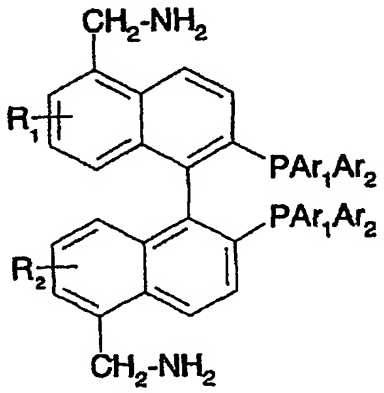


(Ia_2)

in said formula:

- R_1, R_2, Ar_1 and Ar_2 have the same meanings as in formula (I),

leading to the corresponding diaminomethyl compound of formula (Ia_3):



(Ia_3)

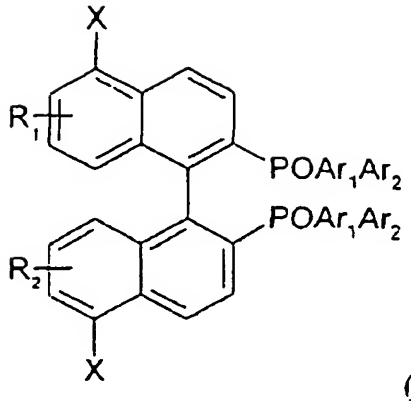
in said formula:

- R_1, R_2, Ar_1 and Ar_2 have the same meanings given above.

112. (New): The process as claimed in claim 111, wherein the reduction is performed using lithium aluminum hydride ($LiAlH_4$).

113. (New): A process for preparing the diphosphine as defined in claim 96, wherein X_1 and X_2 represent a -COOH group, comprising the steps of:

i) performing cyanation by substitution of the two halogen atoms with cyano groups by reacting a diphosphine in dioxide and dihalo form in positions 5,5' of formula (IIa_1):

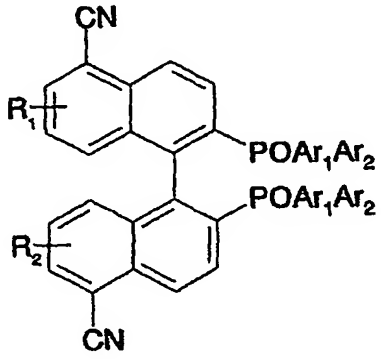


(IIa_1)

in said formula:

- X represents a chlorine, bromine or iodine atom,
- R_1, R_2, Ar_1 and Ar_2 have the meanings as in formula (I),

using a nucleophilic reagent so as to obtain the corresponding dicyano compound (IIa_2):

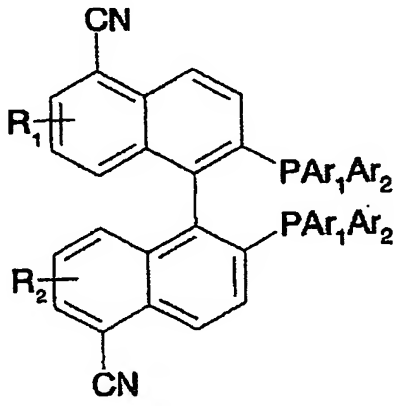


(IIa_2)

in said formula:

- R_1, R_2, Ar_1 and Ar_2 have the same meanings given above, and

ii) performing reduction of the diphosphine in dioxide and dicyano form in positions 5,5' of formula (IIa_2) into the diphosphine of formula (Ia_2):

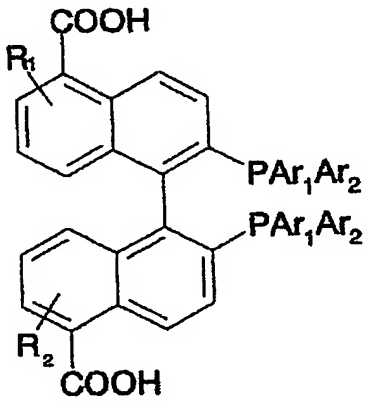


(Ia_2)

in said formula:

- R_1, R_2, Ar_1 and Ar_2 have the same meanings given above; and, then,

iii) treating, in an acidic medium or in an basic medium, the compound of formula (Ia_2), so as to obtain the corresponding carboxylic acid of formula (Ia_4):



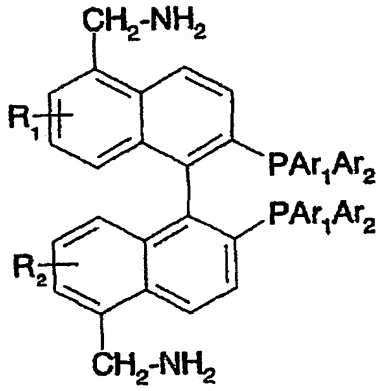
(Ia_4)

in said formula:

- R_1, R_2, Ar_1 and Ar_2 have the same meanings given above.

114. (New): A process for preparing the diphosphine as defined in claim 96, wherein X_1 and X_2 represent a $-CH_2-NH_3^+$ group, comprising performing a reaction by placing a compound

of formula (Ia_3) in contact with an acid at room temperature, in a solvent capable of dissolving the compound of formula (Ia_3):



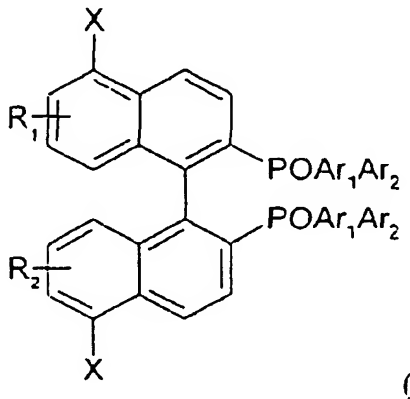
(Ia_3)

in said formula:

- R_1, R_2, Ar_1 and Ar_2 have the same meanings as in formula (I).

115. (New): A process for preparing the diphosphine as defined in claim 96, wherein X_1 and X_2 represent a group selected from the group consisting of alkyl, aryl and arylalkyl groups, comprising

- preparing an organomagnesium reagent corresponding to a diphosphine in dioxide and dihalo form of formula (IIa_1) by reacting the diphosphine with magnesium;



(IIa_1)

in said formula:

- X represents a chlorine, bromine or iodine atom,
- R_1, R_2, Ar_1 and Ar_2 have the meanings as in formula (I),

- reacting the reagent obtained with a halogenated hydrocarbon R-X_0 (X_0 = Br or Cl); and
- reducing the diphosphine in dioxide form using a hydrogenosilane of formula:

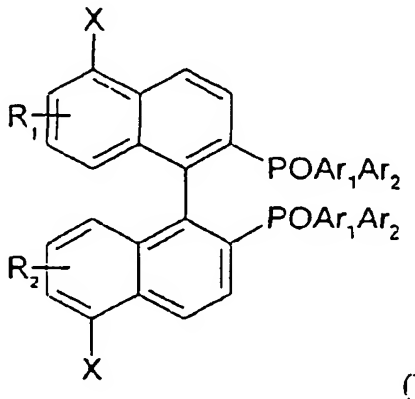
$$HSiR_\alpha R_\beta R_\delta \ (F_a)$$

in said formula:

- R_α, R_β and R_δ, which are identical or different, represent a hydrogen atom, an alkyl group containing from 1 to 6 carbon atoms, a phenyl group or a chlorine atom, and
- at most two of the groups R_α, R_β and R_δ represent a hydrogen atom.

116. (New): A process for preparing the diphosphine as defined in claim 96, wherein X_1 and X_2 represent an alkyl substituted with one or more halogen atoms represented by formula C_pF_{2p+1}, wherein p is between 1 and 15, comprising

- reacting a diphosphine in dioxide and dihalo form of formula (IIa_1) with a corresponding iodo species IC_pF_{2p+1} in the presence of copper, optionally a base and a polar solvent:



(IIa_1)

in said formula: X represents a chlorine, bromine or iodine atom, R_1, R_2, Ar_1 and Ar_2 have the meanings as in formula (I); and

- reducing the diphosphine in dioxide form using a hydrogenosilane of formula:

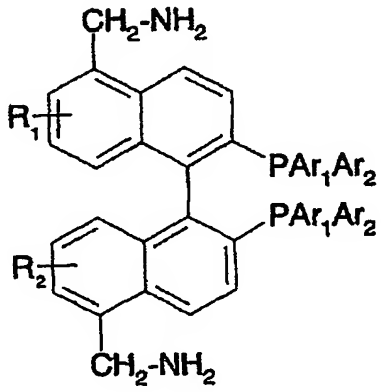
$HSiR_\alpha R_\beta R_\delta$ (F_a)

in said formula:

- R_α, R_β and R_δ, which are identical or different, represent a hydrogen atom, an alkyl group containing from 1 to 6 carbon atoms, a phenyl group or a chlorine atom, and
- at most two of the groups R_α, R_β and R_δ represent a hydrogen atom.

117. (New): A polymer in racemic or optically active form, made by a reaction of a chiral or achiral diphosphine of formula (I') as defined in claim 97, with one or more polymerizable monomers.

118. (New): The polymer as claimed in claim 117, wherein the diphosphine corresponds to formula (Ia_3) as follows:



(Ia_3)

in said formula: R_1, R_2, Ar_1 and Ar_2 have the same meanings as in formula (I').

119. (New): The polymer as claimed in claim 117, wherein the monomer reacted with the diphosphine corresponds to formula (X) below:

Y_1-M-Y_1 (X)

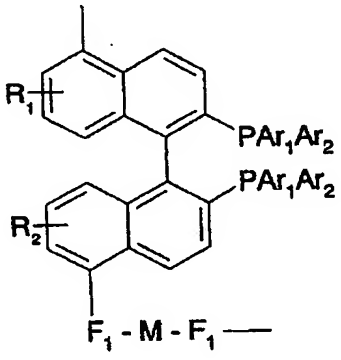
in which:

- M represents a divalent hydrocarbon-based group of aliphatic, alicyclic and/or aromatic nature, and

- Y_1 represents a carboxylic, ester, hydroxyl, amino, isocyanato, aldehyde or ketone group.

120. (New): The polymer as claimed in claim 119, wherein the monomer reacted with the diphosphine corresponds to formula (X) in which M represents a C_1-C_{12} alkylene chain; a cycloalkylene group; or an arylene group.

121. (New): A polymer in racemic or optically active form comprising a following repeating unit:



(P)

in which

- R_1 and R_2 represent a hydrogen atom,

- Ar_1 and Ar_2 independently represent an aryl group,

- M represents a divalent hydrocarbon-based group of aliphatic, alicyclic and/or aromatic nature;

- F_1 represents a functional group resulting from a reaction:

- of the group X_1 chosen from the following groups: aminomethyl, hydroxyl, hydroxymethyl, carboxylic, ester, isocyanato, and isocyanatomethyl, and
- of the group Y_1 chosen from carboxylic, ester, hydroxyl, amino, isocyanato, aldehyde and ketone groups, and

- the degree of polymerization is between 2 and 100.

122. (New): The polymer as claimed in claim 121, wherein in formula (P), M represents a C_1-C_{12} alkylene group, a cycloalkylene group, or an arylene group.

123. (New): The polymer as claimed in claim 121, wherein in formula (P), F_1 represents:

- a urea group (F_1) resulting from a reaction of an aminomethyl group (X_1) with an isocyanato group (Y_1) or an isocyanato or isocyanatomethyl group (X_1) with an amino group (Y_1),
- a urethane group (F_1) resulting from a reaction of an isocyanato or isocyanatomethyl group (X_1) with a hydroxyl group (Y_1) or a hydroxyl or hydroxymethyl group (X_1) with an isocyanato group (Y_1),
- an ester group (F_1) resulting from a reaction of a carboxylic or ester group (X_1) with a hydroxyl group (Y_1) or a hydroxyl or hydroxymethyl group (X_1) which a carboxylic or ester group (Y_1),
- an amide group (F_1) resulting from a reaction of a carboxylic group (X_1) with an amino group (Y_1) or an aminomethyl group (X_1) with a carboxylic group (Y_1), or
- an imine group (F_1) resulting from a reaction of an aminomethyl group (X_1) with an aldehyde or ketone group (Y_1).

124. (New): The polymer as claimed in claim 117, wherein the polymer is a polyurea, polyamide, polyimide, polyimine, polyester or polyurethane.

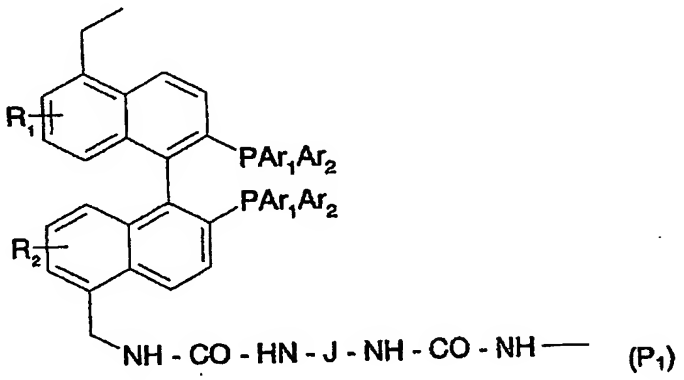
125. (New): A process for preparing the optically active or inactive polymer as claimed in claim 117, comprising polymerizing a chiral or achiral diphosphine (I') and one or more monomers of formula (X):

$$Y_1\text{-}M\text{-}Y_1 \quad (X)$$

in which:

- M represents a divalent hydrocarbon-based group of aliphatic, alicyclic and/or aromatic nature, and
- Y_1 represents a carboxylic, ester, hydroxyl, amino, isocyanato, aldehyde or ketone group.

126. (New): The polymer as claimed in claim 122, wherein the polymer is a polymer of polyurea containing a repeating unit:



(P_1)

in which:

- R_1 and R_2 represent a hydrogen atom,
- Ar_1 and Ar_2 independently represent an aryl group,

- J represents a divalent hydrocarbon-based group of aliphatic, alicyclic and/or aromatic nature, and
- the degree of polymerization is between 2 and 100.

127. (New): The polymer as claimed in claim 126, wherein the degree of polymerization is between 4 and 25.

128. (New): The polymer as claimed in claim 126, wherein a diphosphine bearing two $-CH_2-NH_2$ groups is polymerized with one or more di- or polyisocyanates.

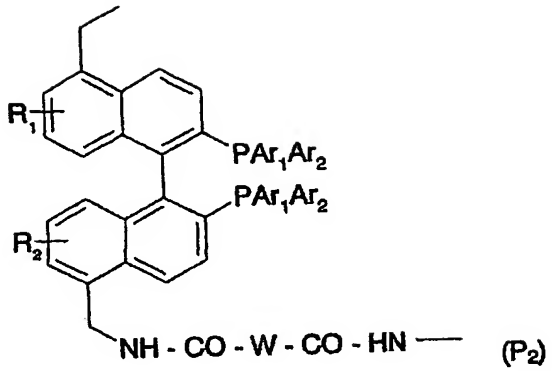
129. (New): The polymer as claimed in claim 128, wherein the diisocyanate is a diisocyanate of formula (Xa):

O=C=N-J-N=C=O (Xa)

in which:

- J represents a divalent hydrocarbon-based group of aliphatic, alicyclic and/or aromatic nature.

130. (New): The polymer as claimed in claim 121, wherein the polymer is a polyamide containing a repeating unit:



(P2)

in which:

- R_1 and R_2 represent a hydrogen atom,
- Ar_1 and Ar_2 independently represent an aryl group,
- W represents a divalent hydrocarbon-based group of aliphatic, alicyclic and/or aromatic nature, and
- the degree of polymerization is between 2 and 100.

131. (New): A process for preparing the polyamide as claimed in claim 130, comprising polymerizing a diphosphine bearing two $-CH_2-NH_2$ groups with a dicarboxylic acid.

132. (New): The process as claimed in claim 131, wherein a dicarboxylic acid corrsponds to formula (Xb):

HOOC-W-COOH (Xb)

in which:

- W represents a divalent hydrocarbon-based group of aliphatic, alicyclic and/or aromatic nature.

133. (New): The diphosphine as claimed in claim 101, wherein in formula (I'), Ar_1 and Ar_2 represent a phenyl group optionally substituted with one or more $(C_1$-$C_6)$alkyl or $(C_1$-$C_6)$alkoxy.

134. (New): The diphosphine as claimed in claim 133, wherein Ar_1 and Ar_2 represent a phenyl group.

135. (New): A transition metal complex comprising at least one ligand as defined in claim 96.

136. (New): The complex as claimed in claim 135, wherein the transition metal is chosen from: rhodium, ruthenium, rhenium, iridium, cobalt, nickel, platinum and palladium.

137. (New): A process for preparing a metal complex useful in asymmetric catalysis, comprising reacting an optionally active diphosphine as claimed in claim 96 with a transition metal compound.

138. (New): The process as claimed in claim 137, wherein the metal complex is capable of catalyzing asymmetric hydrogenation of a C=O, C=N or C=C bond.

139. (New): The process as claimed in claim 137, wherein the metal complex is a ruthenium, rhodium or iridium complex.